REMARKS

Foreign Priority

The acknowledgement, in the Office Action, of a claim for foreign priority under 35 U.S.C. § 119(a)-(d), and that the certified copy of the priority document has been received, is noted with appreciation.

Status Of Application

Claims 1-33 are pending in the application; the status of the claims is as follows:

Claims 1-32 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,246,804 B1 to Sato et al. (hereinafter "the Sato patent").

Claim 33 is objected to as being dependent upon a rejected base claim, but would be allowable of rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Allowable Subject Matter

The objection to claim 33 as being dependent upon a rejected base claim, but allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, is noted with appreciation.

35 U.S.C. § 102(e) Rejection

The rejection of claims 1-32 under 35 U.S.C. § 102(e) as being anticipated by the Sato patent, is respectfully traversed based on the following.

The Sato patent is directed to an image retrieval apparatus and method that compares a *single* designated image (column 6, lines 4-7) to information in an image description file 110 derived from the images in an image database 109. The image description file contains data that "describe the areas [and] boundary point coordinate

strings of the individual regions of the image data stored in the image files 109" (column 6, lines 42-44). The individual regions of the images in the database image file 109 are compared to the designated image using the description files 110 for each image (column 6, lines 39-67). The individual regions are then compounded in the compound region processing unit 104 to determine if the designated image is present in an area of the image that spans more than one individual region (column 10, line 1- column 11, line 27). The images having the greatest similarity to the designated image are then sorted according to a similarity value and provided on a readout display 111 (column 11, lines 28-49).

In contrast to the cited prior art, Claim 1 includes:

> a specifying controller for specifying a plurality of key images, each of said plurality of key images having a respective plurality of features;
> an extracting controller for extracting common key image feature values for common key image features that are common to the plurality of key images;
> a calculating controller for comparing the common key image feature values, extracted by the extracting controller, with the respective feature values of the plurality of database images to thereby sequentially calculate similarities between each of the common key image feature values and respective ones of the database image feature values for each of the plurality of database images; and
> a searching controller for retrieving from the database at least one of the plurality of database images which is similar to the plurality of key images, based on a similarity calculated by the calculating controller.

Claim 1 includes the limitation of a specifying controller for specifying a plurality of key images that are used derive search criteria. In addition, claim 1 requires the extraction of image features in the specified plurality of key images and a determination of which of those features are common among the specified plurality of key images. Those common features are then used as search criteria to determine which of the database images is similar to the key images. This is accomplished by calculating a similarity between the extracted common key feature values and respective features of the database images. These features are neither shown nor suggested in the prior art. The cited reference only designates a single image (100 or 223 in the Sato patent) that is used to

generate search criteria. There can be no "common features" in a single designated image because "common" implies a feature shared by two or more images. In addition, claim 1 specifically states that the search criteria are generated from a "plurality of key images."

The rejection cites column 1, line 7 – column 2, line 53 of the Sato patent as showing the limitation of "extracting common key image feature values for common key image features that are common to the plurality of key images" (rejection page 4, paragraph 11). However, the first paragraph of the cited material specifically contradicts this.

> The present invention relates to a content-based image retrieval method and apparatus for designating **an** image or figure and retrieving image data similar to the designated image or figure in, e.g., an image database or an image file system. (emphasis added)

Thus, a single "image or figure" is designated as the source for search criteria. The Sato patent never suggests the use of anything other than a single image as a source for search criteria.

The rejection implies that the image registration process of the Sato patent is related to the extraction of common image features from a selected plurality of key images (page 2, paragraph 6). However, the image registration unit is only a pre-processing unit for storage of images in the image database 109 (column 26, lines 60-64). There is no suggestion of determining any common elements between any images in the registration process. The features of the database images are simply extracted and stored in the region feature amount storage section 242 and the color index storage section 243. This data is subsequently used in the search process (column 27, lines 28-48). The search process in this embodiment of the Sato patent, as with all of the embodiments of the Sato patent, only compares a single designated image 223 to the extracted features (242 and 243) from the registered images in the image database 109 (column 27, lines 28-48) to determine which of the images in the image database 109 are similar to the single designated image. There is absolutely no suggestion in the Sato patent for anything other than the comparison of a single designated image (100 or 223) to the images in the image database (109).

A claim is anticipated only if every element of the claim is shown or suggested in the cited reference. MPEP § 2131. Because the cited reference does not show or suggest the quoted elements, claim 1 is not anticipated by the cited prior art. Claims 2 and 3 are dependent upon claim 1 and thus include every limitation of claim 1. Therefore, claims 1-3 are not anticipated by the cited prior art.

Also, in contrast to the cited prior art, claim 4 includes:

> a specifying controller for specifying a plurality of key images used to specify search conditions, each of said plurality of key images having a plurality of key image features, each of said plurality of key images having a common feature value for each of said plurality of key image features;
> a calculating controller for comparing the plurality of key images, specified by the specifying controller, with the plurality of database images to thereby calculate similarities between the common feature value for each of the plurality of key image features and a corresponding one of the plurality of database image features for each of the plurality of database images;

As noted above, the cited prior art does not show or suggest an apparatus that selects a plurality of key images, determines the common features of the key images, and uses those common features as search criteria. Therefore, claim 4 is not anticipated by the cited prior art. Claims 5 and 6 are dependent upon claim 4 and thus include every limitation of claim 4. Therefore, claims 4-6 are not anticipated by the cited prior art.

Also in contrast to the cited prior art, claim 7 includes:

> a specifying controller for specifying a plurality of key images used to specify search conditions;
> a first calculating controller for comparing a feature value calculated for each common feature of the plurality of key images to thereby calculate a first degree of similarity for each of said plurality of database images;

As noted above, the cited prior art does not show or suggest an apparatus that selects a plurality of key images, determines the common features of the key images, and uses those common features as search criteria. Therefore, claim 7 is not anticipated by the

cited prior art. Claims 8-10 are dependent upon claim 7 and thus include every limitation of claim 7. Therefore, claims 7-10 are not anticipated by the cited prior art.

Also in contrast to the cited prior art, claim 11 includes:

> specifying a plurality of key images used to specify search conditions;
> extracting common feature values from the plurality of key images;
> comparing the common feature values with the feature values of the plurality of database images to thereby sequentially calculate similarities between the common feature values and the database image feature values;

The cited prior art does not show or suggest a method including specifying a plurality of key images, determining common feature values of those key images and comparing those common feature values to an image database. The cited prior art designates a single image and then compares regions of that image to regions of the database images. Determining the common features of a single image is a non sequitur. There is no suggestion of determining any common features between the regions in the cited prior art. Therefore, the cited prior art does not show or suggest every element of claim 11. Claims 12 and 13 are dependent upon claim 11 and thus include every limitation of claim 11. Therefore, claims are not anticipated by the cited prior art.

Also in contrast to the cited prior art, claim 14 includes:

> specifying a plurality of key images used to specify search conditions, said plurality of key images having common features, said common features of said plurality of key images each having a key image feature value;
> comparing the key image feature values of the plurality of key images with the plurality of database feature values of the plurality of database images to thereby calculate similarities between the key image feature values and the plurality of database image feature values;

As noted above, the cited prior art does not show or suggest selecting a plurality of key images, determines the common features of the key images, and uses those common features as search criteria. Therefore, claim 14 is not anticipated by the cited prior art.

Claims 15 and 16 are dependent upon claim 14 and thus include every limitation of claim 14. Therefore, claims 14-16 are patentably distinct from the cited prior art.

Claim 17 is directed to an image searching method which comprises the steps of:

> specifying a plurality of key images used to specify search conditions, said plurality of key images each having a plurality of common feature values, each of said common feature values corresponding to one of the features of the plurality of key images;
> comparing the common feature values of the plurality of key images with respective feature values of the plurality of database images to thereby calculate first similarities therebetween;

As noted above, the cited prior art does not show or suggest selecting a plurality of key images, determines the common features of the key images, and uses those common features as search criteria. Therefore, claim 17 is not anticipated by the cited prior art. Claims 18-20 are dependent upon claim 17 and thus include every limitation of claim 17. Therefore, claims 17-20 are patentably distinct from the cited prior art.

Also in contrast to the cited prior art, claim 21 includes

> instructions for specifying a plurality of key images used to specify search conditions;
> instructions for extracting common feature values of features of the plurality of key images;
> instructions for comparing the common feature values with feature values of the plurality of database images to thereby sequentially calculate similarities between the common feature values of the plurality of key images and the database image feature values;

The cited prior art does not show or suggest a software program including instructions for specifying a plurality of key images, extracting common feature values and comparing the extracted common feature values to the database images. Therefore, claim 21 is patentably distinct from the cited prior art. Claims 22 and 23 are dependent upon claim 21 and thus include every limitation of claim 21. Therefore, claims 21-23 are not anticipated by the cited prior art.

Also in contrast to the cited prior art, claim 24 includes:

> instructions for specifying a plurality of key images having common feature values used to specify search conditions;
> instructions for comparing the plurality of key images with the plurality of database images to thereby calculate similarities between common feature values of the plurality of key images and the database image feature values;

The cited prior art does not show or suggest a software program including instructions for specifying a plurality of key images having common feature values and comparing the extracted common feature values to the database images. Therefore, claim 24 is patentably distinct from the cited prior art. Claims 25 and 26 are dependent upon claim 24 and thus include every limitation of claim 24. Therefore, claims 24-26 are not anticipated by the cited prior art.

Also in contrast to the cited prior art, claim 27 includes:

> instructions for specifying a plurality of key images used to specify search conditions, said plurality of key images each having a plurality of features;
> instructions for calculating feature values for each of the plurality of key images from the plurality of features for each of the plurality of key images;
> instructions for comparing the feature values of each of the plurality of key images with respective feature values of the plurality of database images to thereby calculate first similarities between the feature values of the plurality of key images and the feature values of the plurality of database images;

The cited prior art does not show or suggest a software program including instructions for specifying a plurality of key images, extracting common feature values and comparing the extracted common feature values to the database images. Therefore, claim 27 is patentably distinct from the cited prior art. Claims 28-30 are dependent upon claim 27 and thus include every limitation of claim 27. Therefore, claims 28-30 are not anticipated by the cited prior art.

Accordingly, it is respectfully requested that the rejection of claims 1-14, 17-24, and 27-30 under 35 U.S.C. § 102(e) as being anticipated by the Sato patent, be reconsidered and withdrawn.

Also in contrast to the cited prior art, claim 31 includes the limitations of:

> specifying a plurality of key images used to specify search conditions, said plurality of key images each having a plurality of key image features each corresponding to at least one of a plurality of database features, said plurality of key images having a plurality of common features which are common to all of the plurality of key images;
>
> calculating common key image feature values from the common features for each of the plurality of key images;
>
> comparing the common feature values of the common features with corresponding database image features of the plurality of database images to calculate similarities therebetween;

The cited prior art does not show or suggest specifying a plurality of key images, calculating the common features of the key images and comparing the common features to the database image features. The cited prior art designates a single image and then compares regions of that image to regions of the database images. Therefore, claim 31 patentably distinct from the cited prior art.

Also in contrast to the cited prior art, claim 32 provides a computer program product including the steps of:

> specifying a plurality of key images used to specify search conditions;
>
> calculating common feature values of the plurality of key images by comparing the plurality of key image features for each of the key images to determine feature values which are common to all of the plurality of key images;
>
> comparing common feature values of the plurality of key images with the database image feature values of the plurality of database images to calculate similarities therebetween;

The cited prior art does not show or suggest specifying a plurality of key images, calculating the common features of the key images and comparing the common features to

the database image features. The cited prior art designates a single image and then compares regions of that image to regions of the database images. Therefore, claim 32 patentably distinct from the cited prior art.

Accordingly, it is respectfully requested that the rejection of claims 1-32 under 35 U.S.C. § 102(e) as being anticipated by the Sato patent, be reconsidered and withdrawn.

CONCLUSION

Wherefore, in view of the foregoing remarks, this application is considered to be in condition for allowance, and an early reconsideration and a Notice of Allowance are earnestly solicited.

This Response does not increase the number of independent claims, does not increase the total number of claims, and does not present any multiple dependency claims. Accordingly, no fee based on the number or type of claims is currently due. However, if a fee, other than the issue fee, is due, please charge this fee to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260.

Any fee required by this document other than the issue fee, and not submitted herewith should be charged to Sidley Austin Brown & Wood LLP's Deposit Account No. 18-1260. Any refund should be credited to the same account.

If an extension of time is required to enable this document to be timely filed and there is no separate Petition for Extension of Time filed herewith, this document is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) for a period of time sufficient to enable this document to be timely filed.

Any other fee required for such Petition for Extension of Time and any other fee required by this document pursuant to 37 C.F.R. §§ 1.16 and 1.17, other than the issue fee,

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Respectfully submitted,

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